Specification of Nephric Tissue From the Intermediate Mesoderm

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Kidney tissue develops by a series of inductive interactions from a precursor tissue called the intermediate mesoderm (IM). During kidney induction, portions of the IM differentiate into kidney tubules and glomeruli while other IM cells are maintained in a precursor state. At the end of kidney development, precursor IM tissue is no longer detectable. The factors that regulate and maintain IM precursor tissue during kidney development are not well understood. This talk will report on our studies of the factors that regulate the initial establishment of the IM during early development. Many of the factors that regulate initial specification of the IM also appear to be involved in the maintenance of IM tissue during kidney differentiation. Understanding the processes by which IM tissue is established and maintained during normal development may aid strategies whose goal is to generate kidney tissue for therapeutic purposes.